

PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AND INSTALLATION OF STREET LIGHTING AT THE INTERSECTION OF MD 213 (WASHINGTON AVENUE/MAPLE STREET) SPRING AVENUE AND THE MODIFICATION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 213 AND CROSS STREET/PHILOSOPHERS TERRACE IN KENT COUNTY, MARYLAND. MD 213 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

1. MD 213 AND SPRING AVENUE

THE INTERSECTION WILL OPERATE IN A NEMA FIVE-PHASE, FULL-TRAFFIC ACTUATED MODE WITH THE MD 213 APPROACHES OPERATING CONCURRENTLY AND THE SPRING AVENUE/SHOPPING CENTER ENTRANCE APPROACHES OPERATING CONCURRENTLY.

AN EXCLUSIVE/PERMISSIVE LEFT-TURN PHASE IS PROVIDED FOR NORTHBOUND MD 213 APPROACH.

EMERGENCY PRE-EMPTION WILL BE PROVIDED ON NORTHBOUND MD 213. THE INTERSECTION WILL OPERATE AS INDICATED ABOVE, UNLESS AN EMERGENCY VEHICLE PRE-EMPTS THE TRAFFIC SIGNAL AND STOPS THE SPRING AVENUE/SHOPPING CENTER ENTRANCE AND SOUTHBOUND MD 213 APPROACHES.

2. MD 213 AND CROSS STREET/PHILOSOPHERS TERRACE

THE INTERSECTION WILL OPERATE IN A NEMA FIVE-PHASE, FULL-TRAFFIC ACTUATED MODE WITH THE MD 213 APPROACHES OPERATING CONCURRENTLY AND THE CROSS STREET/PHILOSOPHERS TERRACE APPROACHES OPERATING CONCURRENTLY.

AN EXCLUSIVE/PERMISSIVE LEFT-TURN PHASE EXISTS FOR NORTHBOUND MD 213 APPROACH.

EMERGENCY PRE-EMPTION WILL BE PROVIDED ON NORTHBOUND MD 213. THE INTERSECTION WILL OPERATE AS INDICATED ABOVE, UNLESS AN EMERGENCY VEHICLE PRE-EMPTS THE TRAFFIC SIGNAL AND STOPS THE CROSS STREET/PHILOSOPHERS AND SOUTHBOUND MD 213 APPROACHES.

CONTROLLER REQUIREMENTS

1. MD 213 AND SPRING AVENUE

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH ONE (1) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS AND SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED ARINET.

2. MD 213 AND CROSS STREET/PHILOSOPHERS TERRACE

THE EXISTING POLE MOUNTED CABINET AND CONTROLLER WILL BE USED.

PHONE DROP

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION AT THE INTERSECTION OF MD 213 AND SPRING AVENUE. THE CONTRACTOR IS TO PROVIDE MR. SNYDER THE NEAREST STREET ADDRESS, ZIP CODE, AND PHONE NUMBER.

MAINTENANCE OF TRAFFIC

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT.

STANDARD NO. MD-104.00 - 104.00-30	STANDARD NO. MD-104.45-01 (RIGHT LANE CLOSURE)
STANDARD NO. MD-104.37-01 (LEFT LANE CLOSURE)	STANDARD NO. MD-104.46-01 (CENTER LANE CLOSURE)
STANDARD NO. MD-104.38-01 (RIGHT LANE CLOSURE)	STANDARD NO. MD-104.48-01 (INTERSECTION TURN BAY LANE CLOSURE)
STANDARD NO. MD-104.41-01 (INTERSECTION FAR-RIGHT LANE CLOSURE)	STANDARD NO. MD-104.49-01 (SHOULDER WORK)
STANDARD NO. MD-104.43-01 (SHOULDER WORK)	
STANDARD NO. MD-104.44-01 (LEFT LANE CLOSURE)	

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. ROBERT L. KIEL
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 810-3240

MR. BARRIER CLOTHIER
DISTRICT UTILITY ENGINEER
PHONE: (410) 810-3275

MR. TERRY O. WRIGHT
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (410) 810-3250

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
963010	1 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
971017	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER AND SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET
900000	1 EACH	VIDEO INTERFACE EQUIPMENT: 1-4 CAMERAS
973023	80 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF : - 1 EACH R10-12 SIGN (36 IN. x 42 IN.) - MAST ARM MOUNT - 4 EACH D-3(1) SIGN (VARIABLE x 16 IN.) DUAL FACED - MAST ARM MOUNT - 1 EACH ASSOCIATED SHIELD ASSEMBLY "SOUTH, MD 213, RIGHT ARROW" (30 IN. x 51 IN.) - POLE MOUNT - 1 EACH R10-11b SIGN (24 IN. x 24 IN.) - MAST ARM MOUNT - 1 EACH M3-1 (24 IN. x 24 IN.) - GROUND MOUNT - 1 EACH M1-5 (36 IN. x 24 IN.) - GROUND MOUNT - 1 EACH M6-1 (21 IN. x 15 IN.) - GROUND MOUNT

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

CATEGORY CODE NO.	QUANTITY	DESCRIPTION
203030	6 C.Y.	TEST PIT EXCAVATION
585620	750 L.F.	12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
585624	200 L.F.	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
655014	80 S.F.	4 IN. CONCRETE SIDEWALK
800000	LUMP SUM	REMOVE AND DISPOSE EXISTING MATERIAL AND EQUIPMENT
800000	360 L.F.	DISCONNECT AND PULL BACK EXISTING ELECTRICAL CABLE
801004	8 C.Y.	CONCRETE FOR SIGNAL FOUNDATION
801104	17 L.F.	WOOD SIGN SUPPORTS 4 INCH x 4 INCH
802501	300 L.F.	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805010	30 L.F.	1 IN. ELECTRICAL CONDUIT - GALVANIZED RISER
805011	50 L.F.	1 IN. ELECTRICAL CONDUIT - GALVANIZED SLEEVE
805029	30 L.F.	2 INCH U-GUARD - PVC RISER
805032	30 L.F.	3 INCH U-GUARD - PVC RISER
805125	30 L.F.	2 INCH SCHEDULE 80 RIGID PVC CONDUIT- TRENCHED
805135	50 L.F.	3 INCH SCHEDULE 80 RIGID PVC CONDUIT- TRENCHED
805140	60 L.F.	4 INCH SCHEDULE 80 RIGID PVC CONDUIT- TRENCHED
805150	610 L.F.	3 INCH SCHEDULE 80 RIGID PVC CONDUIT- SLOTTED
805155	280 L.F.	4 INCH SCHEDULE 80 RIGID PVC CONDUIT- SLOTTED
805160	50 L.F.	1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
807400	1 EACH	ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 VOLTS 60 AMPS
810010	100 L.F.	ELECTRICAL CABLE 1-CONDUCTOR NO. 4 AWG-THHN/THWN
810550	3 EACH	MICROLOOP PROBE, 500 FOOT LEAD IN CABLE
811001	7 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
813014	10 S.F.	INSTALL GROUND MOUNTED SIGN
813015	70 S.F.	INSTALL OVERHEAD SIGN
816001	3 EACH	VIDEO DETECTION CAMERA
816005	3 EACH	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
818021	1 EACH	STEEL POLE WITH A TWIN 50 FOOT MAST ARM
818030	1 EACH	STEEL POLE WITH A SINGLE 38 FOOT MAST ARM
822002	600 L.F.	12-PAIR COMMUNICATION CABLE, JELLYFILLED (UNDERGROUND)
831010	1 EACH	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
837001	4 EACH	GROUND ROD - 3/4 INCH DIAMETER x 10 FOOT LENGTH
860265	6 EACH	RELOCATE EXISTING SIGNAL HEAD
860270	3 EACH	8 INCH VEHICULAR TRAFFIC SIGNAL AHEAD SECTION
860272	28 EACH	12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION
860292	3 EACH	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
861104	200 L.F.	ELECTRICAL CABLE- 2 CONDUCTOR ALUMINUM SHIELDED (NO. 14 AWG)
861107	150 L.F.	ELECTRICAL CABLE- 5 CONDUCTOR (NO. 14 AWG)
861108	1600 L.F.	ELECTRICAL CABLE- 7 CONDUCTOR (NO. 14 AWG)
861116	130 L.F.	ELECTRICAL CABLE- 2 CONDUCTOR (NO. 12 AWG)
862101	2750 L.F.	LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 AWG)
862102	950 L.F.	SAW CUT FOR SIGNAL (LOOP DETECTOR)
866103	1 EACH	15 FOOT LIGHTING ARM ON SIGNAL STRUCTURE
871202	1 EACH	INSTALL CONTROLLER AND CABINET- BASE MOUNT

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET AT MD 213 AND SPRING AVENUE. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

PHASE CHART

	1	2	3	4	5	6	7	8	9	
PHASE 1 + 6	G	G	G	R	R	R	R	R	R	
1 + 6 CHANGE	G	G	G	R	R	R	R	R	R	
PHASE 2 + 6	G	G	G	G	G	R	R	R	R	
2 + 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R	
PHASE 4 + 8	R	R	R	R	R	G	G	G	G	
4 + 8 CHANGE	R	R	R	R	R	Y	Y	Y	Y	
EMERGENCY	G	G	G	R	R	R	R	R	R	
PRE-EMPTION	G	G	Y	R	R	R	R	R	R	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	

MD 213 AND SPRING AVENUE

	1	2	3	4	5	6	7	8	9	
PHASE 1 + 6	G	G	G	R	R	R	R	R	R	
1 + 6 CHANGE	G	G	G	R	R	R	R	R	R	
PHASE 2 + 6	G	G	G	G	G	R	R	R	R	
2 + 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R	
PHASE 4 + 8	R	R	R	R	R	G	G	G	G	
4 + 8 CHANGE	R	R	R	R	R	Y	Y	Y	Y	
EMERGENCY	G	G	G	R	R	R	R	R	R	
PRE-EMPTION	G	G	Y	R	R	R	R	R	R	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	

MD 213 AND CROSS STREET/PHILOSOPHERS TERRACE

WR&A
Whitman, Reardon
and Associates, LLP
801 South Caroline Street
Baltimore, Maryland 21231
(410) 235-3450



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety

TRAFFIC ENGINEERING DESIGN DIVISION

GENERAL INFORMATION SHEET
MD 213 INTERSECTIONS

DRAWN BY: S. BLOSS	F.A.P. NO. T680-C	TS NO. T680-C	SHEET NO.
CHECKED BY: N. LEARY	S.H.A. NO. KE411-5176	T.I.M.S. NO. F444	OF
SCALE: NONE	COUNTY: KENT		
DATE: 6/9/2004	LOG MILE:		

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